

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(4 Pages)

Reg. No:.....

Question Code: 26E01307

Course Code: 24PMZO42

PG Degree - End Semester Examinations, April 2026

Fourth Semester

M.Sc., ZOOLOGY

Ecology

(For those who joined in July 2024 onwards)

Time : 3Hours

Maximum : 75 Marks

PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer:

- CO:1
K:1
1. Recall the Interaction between living organisms and non-living components of the environment is _____
- (a) Population interaction (b) Community interaction
(c) Ecosystem interaction (d) Species interaction
- CO:2
K:2
2. The ecological niche of an organism refers to _____.
- (a) Functional role of an organism in an ecosystem (b) Physical space occupied by organism
(c) Population size (d) Habitat range
- CO:1
K:1
3. What is an exponential growth curve also called?
- (a) S-Shaped curve (b) J-Shaped curve
(c) Sigmoid curve (c) Bell shaped curve
- CO:2
K:1
4. Find the causes of dispersal limitation.
- (a) Increased gene flow (b) Reduced extinction
(c) Population isolation (d) Increased population size
- CO:3
K:1
5. In which of the following Interspecific interaction occurs?
- (a) Individuals of same species (b) Population and environment
(c) Organisms and habitat (d) Individuals of different species

- CO:3
K:1 6. Which level of biodiversity refers to variation within a species?
- (a) Genetic diversity (b) Species diversity
(c) Ecosystem diversity (d) Community diversity
- CO:1
K:1 7. Which ecosystem shows highest primary productivity?
- (a) Deserts (b) Tropical rain forests
(c) Grasslands (d) Tundra
- CO:4
K:1 8. The Himalayan biogeographical zone is characterized by _____
- (a) Tropical evergreen forests (b) Mangroves
(c) Altitudinal variation and high endemism (d) Grasslands
- CO:5
K:1 9. Select the pollutant responsible for causing Minamata disease.
- (a) Lead (b) Mercury
(c) Arsenic (d) Cadmium
- CO:2
K:3 10. What is meant by Conservation of species in their natural habitat?
- (a) Ex-situ conservation (b) In-situ conservation
(c) Artificial conservation (d) Gene conservation

PART - B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

- CO:3
K:4 11. (a) Examine resource partitioning and character displacement and their role in reducing interspecific competition.

(OR)

- (b) Inspect the role of physical environmental factors in regulating the distribution of organisms.

- CO:3
K:4 12. (a) Examine density-dependent and density-independent factors involved in population regulation with suitable examples.

(OR)

(b) List the importance of age structure in population dynamics with suitable examples.

CO:3 13. (a) Identify the different levels of species diversity and its measurement using suitable indices.
K:3

(OR)

(b) Organize the community structure and explain its major attributes in an ecosystem.

CO:4 14. (a) Discover the relationship between primary production and decomposition in maintaining ecosystem stability.
K:4

(OR)

(b) Analyze the bio-geographical zones of India, highlighting their major characteristics with suitable examples.

CO:5 15. (a) Examine the tools and techniques used for monitoring and documenting biodiversity.
K:4

(OR)

(b) Inspect the effectiveness of different biodiversity management approaches in conserving species diversity.

PART - C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 600 words.

CO:2 16. (a) Apply the concept of biotic and abiotic interactions to explain productivity in an aquatic ecosystem.
K:3

(OR)

(b) Experiment with the concept of habit and ecological niche. Discuss their significance in the distribution and survival of organisms with suitable examples.

CO:2 17. (a) Analyze the characteristics of a population and explain how these characteristics influence population dynamics.
K:4

(OR)

(b) Inspect the various measures taken to control population explosion in developing countries.

CO:3 18. (a) Explain the different types of interspecific interactions occurring in an ecosystem with suitable examples.

K:5

(OR)

- (b) Determine the ecological significance of different types of succession in ecosystem development.

- CO:4 19. (a) Elaborate the structural organization and functional processes of a freshwater ecosystem with suitable examples.
K:6

(OR)

- (b) Discuss the ecological significance of major terrestrial biomes in maintaining global biodiversity and climate regulation.

- CO:5 20. (a) Invent the impact of industrialization and urbanization on global environmental change.
K:6

(OR)

- (b) Compile the fundamental principles of biodiversity conservation and illustrate their application in ecosystem management.